



# *TREASURE* *Transferable Skills Week*

**Nottingham Geospatial Building**  
**University of Nottingham**  
**12-16 November 2018**

## Monday 12 November

- 09:30 – 12:00 Engaging Researcher 1 (Dr Rachael Pearson, Graduate School and Simon Roberts, GRACE)  
Inc coffee/tea break at 10:45 for 15 minutes
- 12:00 – 13:00 Lunch
- 13:00 – 16:30 Engaging Researcher 2 (Dr Rachael Pearson, Graduate School and Simon Roberts, GRACE)  
Inc coffee/tea break at 14:30 for 15 minutes

## Tuesday 13 November

- 09:30 – 10:45 Writing a research impact statement (Dr Rachael Pearson, Graduate School + ITN TREASURE contributor)
- 10:45 – 11:00 Coffee/tea break
- 11:00 – 12:00 Getting your work published (Dr Elizabeth Davey, Graduate School + ITN TREASURE contributor)
- 12:00 – 13:00 Lunch
- 13:00 – 14:00 Getting your work published – Cont'd (Dr Elizabeth Davey, Graduate School)
- 14:00 – 14:15 Coffee/tea break
- 14:15 – 16:30 Professional business networking (Dr Victoria Sedman, Graduate School and Mark Smith)

## Wednesday 14 November

- 09:30 – 12:00 Using posters to communicate research (Dr Elizabeth Davey Graduate School)  
Inc coffee/tea break at 10:45 for 15 minutes
- 12:00 – 13:00 Lunch
- 13:00 – 17:00 Delivering dynamic presentations with impact (Alison Johnson, Graduate School + 2 demonstrators)  
Inc coffee/tea break at 14:30 for 15 minutes

## Thursday 15 November

- 09:00 – 12:00 Preparing to Lead and Work in Innovative Organisations (Parmjit Dhugga, Graduate School)  
Inc coffee/tea break at 10:45 for 15 minutes
- 12:00 – 13:00 Lunch
- 13:00 – 14:00 Life after PhD: Guest Speakers from our Alumni (Alison Johnson, Graduate School)
- 14:00 – 14:15 Coffee/tea break
- 14:15 – 16:00 Report writing for business and industry (Alison Johnson, Graduate School, Professor Stuart Marsh and Kevin Sheridan from Veripos)

## Friday 16 Nov

- 09:00 – 10:45 IP Strategy (Paul Bhatia from GRACE)
- 10:45 – 11:00 Coffee/tea break
- 11:00 – 12:00 Introduction to IP in TREASURE + Exercise (Paul Bhatia)
- 12:00 – 13:00 Lunch
- 13:00 – 16:00 Students' Task (Paul Bhatia)  
Inc coffee/tea break at 14:30 for 15 minutes
- 16:00 – 17:30 Presentations by students to NGI staff (Paul Bhatia leads)

## ITN Treasure Transferable Skills Week

Room A20, Nottingham Geospatial Building, Jubilee Campus, Nottingham

12-16 November 2018

### Introduction

This transferrable skills training programme has been specifically designed for ITN TREASURE fellows. It will cover a carefully selected series of transferrable skills that aim to transform researchers into all round individuals who can effectively engage with a wide range of stakeholders by the end of their research project.

Complementary and transferrable skills training at the University of Nottingham is provided in a collective and interactive manner by the Graduate School. All 13 TREASURE's ESRs will have an opportunity to actively contribute during the week and become equally equipped with the necessary tools to succeed in their chosen future career.

It is expected that through this programme of non-scientific complementary training the TREASURE fellows will further enhance important professional skills. Appropriately building on the transnational component of their TREASURE training and their personal experience of living and working abroad.

The skills gained will improve your ability to complete your research project on time and to present your work to a variety of audiences. They will also help you to develop a good understanding of how your work could transform the lives of people and societies across the world and encourage you to reflect on the commercial possibilities for your research.

We look forward to working with you.

**Marcio Aquino**  
TREASURE coordinator  
Nottingham Geospatial Institute

**Parmjit Dhugga**  
Head of Researcher Development  
Graduate School,

## Monday 12 November

### Engaging Researcher

This one day highly interactive workshop has been designed for researchers who are both new to, or have some experience with public engagement. The engaging researcher is for researchers keen to engage a wide range of stakeholders with their research but not sure where to begin.

An engaging researcher is just like any other researcher - with one important difference. Engaging researchers go out of their way to involve the public with their research. They open up opportunities for others to get involved, provide new perspectives on the value of their work, and stimulate people to be curious about the world of research - and why it matters.

The engaging researcher will use a case study approach to explore public engagement. The programme is experiential in nature and is split across two concepts:

1. Case study activities where researchers work in teams to build a public engagement activity.
2. Reflective activities to support researchers in thinking about how they can apply what they have learnt in the case study to their own research field

### **Learning Outcomes**

During the workshop, participants will:

- Explore how public engagement can benefit you, your research, research funders and the public with whom you engage.
- Discover the huge range of activities you can use to engage the public with your research.
- Investigate the needs of different publics, explore potential engagement barriers, and identify solutions for overcoming them.
- Explore methods for evaluating the impact and success of public engagement activities.
- Put your knowledge and skills into action to design and plan a public engagement activity.
- Examine which public engagement activities complement your current skills and what will help you develop your skills further.

## Tuesday 13 November

### Writing a research impact statement

The 'Pathways to Impact' section is an important component of UK research council funding applications and is increasing an important element of international funding calls. Consequently, understanding the concept is **essential** for anyone who is considering a research career.

This short workshop will introduce the key requirements for demonstrating the economic and societal impact of research. Participants will write an impact summary for their own research project, and consider how to support a funding application with a 'Pathways to Impact' document.

### **Learning Outcomes**

Researchers attending this workshop will be able to:

- understand the key expectations on economic and societal impact
- write an impact summary for their own research
- identify activities that can be used to demonstrate pathways to impact

## **Getting your work published**

This short session is designed to raise your awareness and understanding of the process of getting your work published so that you are better prepared to meet the expectations of both editors and reviewers.

The knowledge gained from this session will assist you to submit papers and articles that better meet the expectations of editors. The event will help you think about how best to present your work for publication and what is involved in working with editors to reach a final text.

### **Learning Outcomes**

By the end of the session you will have:

- a better understanding of the publishing process
- understood the expectations of editors
- considered the factors that make a paper “good”
- explored the “rules of the game” for success

## **Professional business networking**

Being a confident and effective networker will set you apart from the crowd and is an essential element of developing as a professional. You will become more visible and you will always create more opportunities than the average person. However, many researchers dread this vital activity or feel that they could perform better.

During this workshop, you will learn the basic principles of networking, including how to work a room and how to follow up potential opportunities.

### **Learning Outcomes**

Researchers attending this workshop will

- Understand the purpose of networking and the skill sets involved
- Improve their skills for building relationships
- Learn how to prepare effectively for networking opportunities
- Practice their networking skills to improve confidence
- Know how to follow up new contacts

## **Wednesday 14 November**

### **Using posters to communicate research**

Posters are widely used in academic conferences and other settings and provide an excellent means to present your research in a concise, accessible and interesting manner. During this course you will learn about designing effective poster presentations and then how best to use posters to communicate research outputs.

The course covers the steps and considerations involved in creating an effective poster presentation. You will study the theoretical aspects of design (placement of text and images, colour, fonts, etc.) as well as how to communicate with your audience.

You will:

- discuss the needs and wants of your audience
- appraise possible formats and structures for posters
- consider how to present research effectively on posters
- consider the effective use of colour, size, fonts etc.
- consider “performing” at your poster session

### **Learning Outcomes**

Researchers attending this workshop will

- Be able to plan the design of an effective poster presentation
- Appreciate the need to consider your audience in order to tailor your poster to meet their needs
- Be aware of, and able to evaluate various possible poster structures and formats

### **Delivering dynamic presentations with impact**

This presentation skills seminar and workshop will equip you with the knowledge and skills to create and deliver a talk with impact whether you use slides or not or when responding to questions or audience prompts. The workshop section will be highly interactive and developmental in nature, providing opportunities to experiment with your delivery and technique in a mutually supportive environment.

The workshop will help you develop and practice quick response mechanisms and techniques (also useful when handling questions) via the delivery of snap talks and assist you to refine and showcase your own natural style so that you are seen as credible, convincing and persuasive even with limited preparation time.

During this course you will receive constructive feedback on your delivery from fellow researchers and a member of Graduate School staff.

### **Learning Outcomes**

Researchers attending the seminar and workshop will be able to:

- describe how a talk can be made memorable and leave a lasting impression.
- describe the needs of the different audiences
- give and receive constructive feedback about their own ability to communicate effectively and the ability of others to do likewise
- receive and respond effectively to prompts/questions from the audience and to engage in broader discussion.
- and have the opportunity to practice and reflect on their own delivery

## **Thursday 15 November**

### **Preparing to lead and work in innovative organisations**

As ITN Treasure researchers, many of you will be positioning yourself for a fast track career into early leadership roles, whether remaining in academia or moving out into Industry. What-ever your role, you will be seeking to influence or directly lead teams to drive and build innovation across many areas of ‘the business’ you operate in. Understanding your own leadership qualities and the people

context, organisational structures and processes behind managing innovative activities is crucial. Leadership knowledge and tendencies are a common skill set sought by academic and industrial employers alike.

This session will help you to understand:

- the role of leadership within an innovative organisation
- some of the processes required to support innovation
- how innovative frameworks within teams and/or organisations can be built to support innovation and allow innovative practice to emerge
- your own leadership qualities, development needs and role within an innovative organisation
- how you can identify yourself as a future leader

### **Learning Outcomes**

Researchers attending this workshop will be able to:

- Think beyond traditional leadership stereotypes
- Discuss how effective individuals make things happen
- Identify leadership qualities and strengths
- Understand the importance of attitude and leading by example
- Better understand how to get people to commit to projects

### **Life After the PHD – Guest speakers from our alumni**

During this session you will be exposed to recent University of Nottingham alumni to discuss what they are doing post PhD and how they got the job they wanted. This will be an informal but informative session with time for you to ask questions. At the beginning of the session the alumni will briefly talk about their journey into a new area of employment.

The hints, tips and insights shared during the session will be relevant to all researchers regardless of the future career that you are positioning yourself for.

### **Report writing for business & industry**

This session will develop the skills needed for writing reports to communicate progress and/or the outcomes of research projects to a wide range of stakeholders within an industrial or business environment. During the session we will identify the different purposes of research reports, consider the needs of different audiences, and compare how the style of report writing differs from that required for academic writing

### **Learning Outcomes**

By the end of this workshop you will have:

- considered what makes a good report
- recognized the differences between writing for academia and business/ industry
- considered the needs of different readers within business/industry
- practiced management, technical and promotional report writing skills

## **Friday 16 Nov**

This interactive workshop will provide an introduction to the Intellectual Property Rights Strategy that covers the identification, protection and exploitation of Intellectual Property created as a result of the TREASURE project. Whilst previous sessions have concentrated on public engagement, working in industry and research impact, this workshop focuses on the exploitation and commercialisation of new technology and innovations resulting from the project.

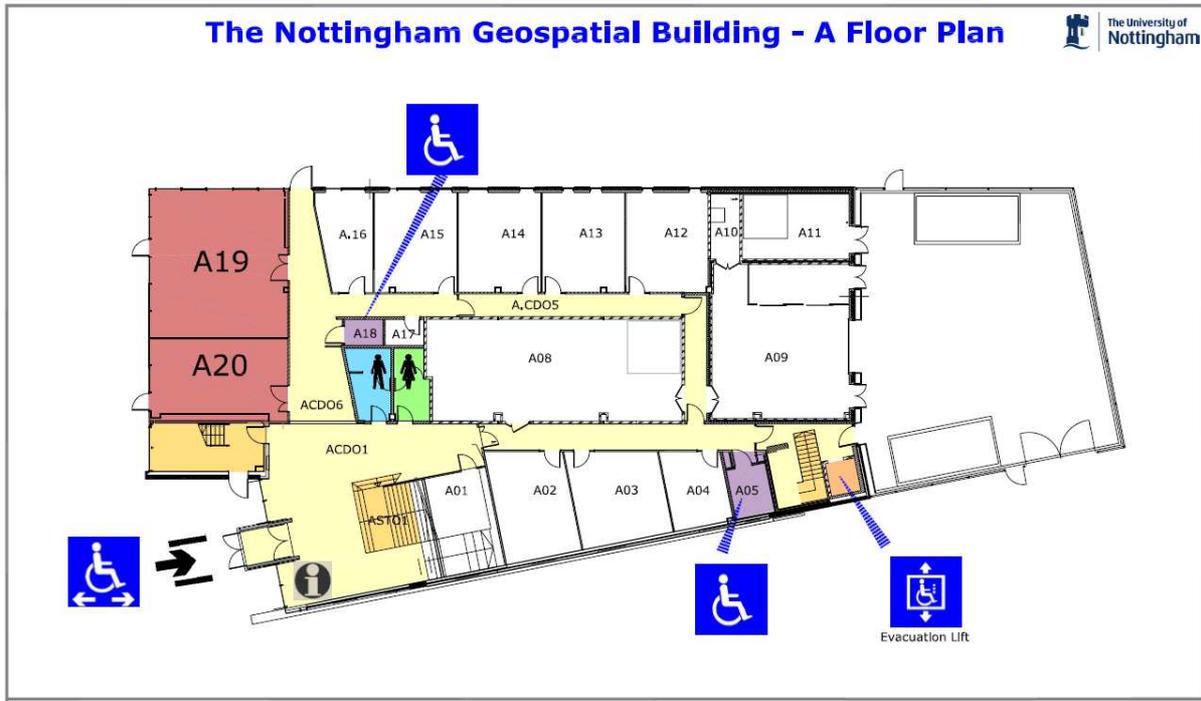
The morning session will explain the different types of Intellectual Property and introduce some options that are available to you for commercialisation and exploitation. During the afternoon session you will work individually to apply the TREASURE IP strategy to your own work. Following that you will discuss your ideas for commercialisation and exploitation in breakout groups & have the opportunity to present and discuss your ideas with the wider group.

### Learning Outcomes

- Gain an understanding of the different types of I.P.
- Understand and apply the TREASURE I.P. strategy
- Consider mechanisms for commercialisation and exploitation of your ideas

## Appendix A

### Teaching location for the programme (Room A20)



## Appendix B

### ESRs Profiles

#### 1. Brian Weaver

Brian comes from Oregon, United States and studied Civil Engineering Geomatics at Oregon State University (MSc). Following two civil engineering internships at Kennedy/Jenks Consultants and Portland General Electric, and further quality assurance testing internships at Trimble Navigation, he led the University's American Congress on Surveying and Mapping group as student President in 2015-16. Brian's interest in high accuracy real-time GNSS research and background in geodetic surveying developed into his PhD, which is funded through the TREASURE project at the Nottingham Geospatial Institute (NGI) at the University of Nottingham, UK. Brian's focus within the project is on high accuracy positioning algorithm development, which involves multi-national collaboration with other TREASURE fellows, academic institutions, and industry leaders that produce advanced GNSS solutions.

Host organisation: University of Nottingham, UK

Research project: Real-Time PPP and NRTK Algorithm Development

#### 2. Caner Savas

Caner received his BSc degree in Electrical and Electronics Engineering in 2011 and his MSc degree in the field of Telecommunications in 2014 from Middle East Technical University, Turkey. He worked at different companies as a navigation and a radar systems engineer. He has been involved in software and hardware implementations of both navigation and radar systems since 2011. Currently, he is pursuing his PhD at the Department of Electronics and Telecommunications at Politecnico di Torino, Italy, funded through the TREASURE project. His research is focused on the implementation of a carrier-based software GNSS receiver.

Host Organisation: Politecnico di Torino, IT

Research project: Carrier-Based Software Receiver Design

#### 3. Dimitrios Psychas

Dimitrios Psychas is a TREASURE fellow hosted by Fugro Intersite B.V. and is also enrolled on a PhD at Delft University of Technology (TU Delft), in the Netherlands. He studied Geodesy at the National Technical University of Athens, Greece, and Earth-oriented Space Science and Technology with a specialisation in Global Navigation Satellite Systems at the Technische Universität München, Germany. He completed his Master's studies with the highest distinction and a thesis on the estimation of GNSS satellite phase biases using a global network of reference stations. His current research mainly focuses on fast and reliable multi-GNSS precise point positioning with integer ambiguity resolution.

Host organisation: Fugro B.V., NL

PhD student at: TU Delft, NL

Research project: Fast and Reliable Multi-GNSS Precise Point Positioning with Integer Ambiguity Resolution

#### 4. Francesco Darunga

Francesco is an Italian Aerospace Engineer who graduated with a Masters Degree from the University of Padova, Italy. He has a deep interest in satellites, GNSS and related disciplines. In August 2016, he joined DLR's GSOC institute in Munich, Germany, within the GNSS group

as a Master student, working in the field of solar radiation pressure modelling for the QZS-1 satellite. In September 2017, he joined Geo++ in Garbsen, Germany, as a TREASURE fellow. He enrolled on a PhD at the Leibniz Universität Hannover, Germany.

Host organisation: GEO++ GmbH, DE

PhD student at: Leibniz Universität Hannover, DE (TREASURE associate partners)

Research project: Improved High Accuracy RTK Positioning

**5. Hongyang Ma**

Hongyang Ma received his Bachelor Degree in Geodesy from the Shandong University of Technology, China, in 2012. He then went to the Chinese Academy of Surveying and Mapping where he received his Master's Degree in Geodesy in 2015. In the same year, he went to Wuhan University (WHU) where he started work towards his PhD Degree. After two years of study at WHU, he joined the TREASURE project, hosted by Delft University of Technology (TU Delft), in the Netherlands, in 2017. His research topic is High Accuracy Tropospheric Modelling to Support the Ultimate Real-time EGNSS Solutions and Other Applications.

Host Organisation: TU Delft, NL

Research project: High Accuracy Tropospheric Modeling to Support the Ultimate Real-time EGNSS Solutions and Other Applications

**6. Hossein Ghobadi**

Hossein was born in Karaj, in the north of Iran. He has always been very interested in technology, especially in electronic devices, which led him to pursue his studies in the field of Electrical and Electronic Engineering, further continuing on Embedded Systems specifically. He is qualified in IT and was awarded a TAIST-Tokyo Tech scholarship for his master studies. He is currently a TREASURE fellow hosted by Istituto di Geofisica e Vulcanologia (INGV) in Rome, Italy. He is enrolled on a PhD at University of Salento (UNISALENTO), Italy.

Host organisation: INGV, IT

PhD student at: UNISALENTO, IT (TREASURE associate partners)

Research project: ICT Technical Feasibility Study

**7. Jon Bruno**

Jon was born in the Basque country, in the north of Spain. He got his bachelor's and master's degrees in Telecommunications Engineering from Mondragon Unibertsitatea. Before pursuing his PhD, he worked as a Software developer for 4 years at Indra in Barcelona where he was part of a large, multidisciplinary and international team developing different applications. He is currently a TREASURE fellow, hosted by the Centre for Space, Atmospheric and Oceanic Science at the University of Bath. He studies the Ionosphere using GNSS, and its effects on radio communications.

Host organisation: University of Bath, UK

Research project: Ionospheric tomography and data assimilation

**8. Juliana Garrido Damaceno**

Juliana was born in Brasilia, Brazil. She holds a first class bachelor's degree in Geophysics from the University of Brasilia. She graduated in Geodynamics and Geophysics in 2016 at Federal University of Rio Grande do Norte, Brazil. She is now a TREASURE fellow hosted by the Istituto Nazionale di Geofisica e Vulcanologia (INGV) in Rome, Italy, and she is a PhD student of Engineering of Complex Systems at University of Salento (UNISALENTO). Her current research

focuses on the improvement of an ionospheric model for the regional short-term forecasting of the Total Electron Content (TEC) and scintillation indices.

Host Organisation: INGV, IT

PhD student at: UNISALENTO, IT (TREASURE associate partners)

Research project: TEC and scintillation forecasting models

**9. Kai Guo**

Kai graduated in Instrumentation Science and Technology at Beihang University, China, in 2017. With a background in electrical engineering, he conducted research on robust satellite navigation in the presence of ionospheric scintillation during his master's. He is now a TREASURE fellow at the Nottingham Geospatial Institute (NGI) at the University of Nottingham, UK. Within the TREASURE project, he concentrates on developing novel GNSS receiver tracking models aiming to improve the receiver tracking performance under ionospheric scintillation. Mitigation tools will also be studied to realise robust GNSS under the adverse influence of scintillation.

Host organisation: University of Nottingham, UK

Research project: Ionospheric Scintillation Sensitive Tracking Models and Mitigation Tools

**10. Karl Bolgrem**

Karl graduated with an engineering degree from KTH Royal Institute of Technology in Stockholm, Sweden, where he studied engineering physics and electrophysics. Karl's academic interests include geophysics, space weather and space technology, and for his MSc thesis, he studied pulsating aurora at the University Centre in Svalbard, Norway. He is now a TREASURE fellow at the Centre for Space, Atmospheric and Oceanic Science at the University of Bath, UK, where his PhD research focuses on ionospheric wave disturbances.

Host Organisation: The University of Bath, UK

Research project: Travelling Ionospheric Disturbance (TID) Modelling and Mitigation

**11. Lotfi Massarweh**

Lotfi Massarweh graduated cum Laude in Aerospace Engineering at the Polytechnic of Milan, IT, as part of the A.S.P.R.I. Honors Programme. He also worked as an intern at the "Centre National de la Recherche Scientifique" (CNRS) in Toulouse, France, and then obtained a Masters degree cum Laude at the Delft University of Technology (TU Delft), in the Netherlands. At TU Delft he specialised in Space Flight and Exploration, particularly on satellite data processing. Later he was employed as a full-time researcher for an ESA's Invitation-To-Tender. Currently, he is a TREASURE fellow hosted by Deimos Engenharia S.A., Portugal, and also a PhD student at the Instituto Superior Técnico in Lisbon.

Host organisation: Deimos Engenharia, PT

PhD student at: Instituto Superior Técnico, PT (TREASURE associate partners)

Research project: Real-Time Provision of High Accuracy Orbits and Clocks

**12. Paolo Testa**

Paola is an economist with 3-years of professional experience. She is currently a TREASURE fellow hosted by Noveltis SAS, France, while also undertaking a PhD in Strategy at the Toulouse Business School. Specifically, she is dealing with the identification of the best go-to-

market strategy for the conceptual prototype developed throughout the project. Paola has a Master of Science degree in Economics at Bocconi University, Italy. Before joining the TREASURE project, she worked as junior economist at Eurocontrol, and at VVA Brussels as consultant, being involved in international projects related to GNSS downstream applications performing market assessment, sizing and forecasting in support of the European Commission and the European GNSS Agency. She is a native Italian speaker and is also fluent in English and French.

Host organisation: Noveltis SAS, FR

PhD student at: Toulouse Business School, FR (TREASURE associate partners)

Research project: Diffusion of Innovations and Strategic Marketing in the Context of the Space Economy

### **13. Wenjian Qin**

Wenjian received his bachelor's degree in Geodesy and Geomatics from Wuhan University, China, in 2010, and a master's degree in Geomatics Engineering from the University of Stuttgart, Germany, in 2012. He worked as a system engineer and project manager in the satellite application industry in China after graduation, with experience on different CORS and SBAS related projects. He is currently pursuing his PhD in the Department of Electronics and Telecommunications at Politecnico di Torino in Italy as a TREASURE fellow. His research covers GNSS signal interference detection and mitigation technology.

Host organisation: Politecnico di Torino, IT

Research project: Interference Detection and Mitigation